

## CLAIMS

Amend the claims as follows.

1. (Currently amended) A method of designing a scanning head for a scanner, wherein the scanner has a platform and a scanning head with the scanning head capable of moving along a scanning direction to scan a document placed on the platform, the method ~~at least including~~ comprising:

providing a shell body of the scanning head having a long side, wherein a length of the long side is smaller than a length of the platform along a direction perpendicular to the scanning direction;

providing a scattering light source mounted on the long side of the shell body for producing a parallel beam of light, wherein a length of the scattering light source is smaller than or equal to the length of the long side of the shell body;

providing a plurality of reflecting mirrors within the shell body;

providing a lens within the shell body; and

providing a photo-sensor within the shell body, wherein the parallel beam from the light source projecting onto the platform will sequentially pass through the reflecting mirrors and the lens to arrive at the photo-sensor after reflection.

2. (Original) The method of claim 1, wherein the reflecting mirrors have a length smaller than or equal to length of the scattering light source.

3. (Original) The method of claim 1, wherein a length of the parallel light beam projecting onto the platform is larger than or equal to the length of the platform in a direction perpendicular to the scanning direction.

4. (Currently amended) The ~~design~~ method of claim 1, wherein the scattering light source includes a scattering lamp tube.

5. (Currently amended) A method of designing an optical path for a scanner, wherein the scanner has a platform and a scanning head, and the scanning head ~~is capable of moving~~ being

movable in a scanning direction to scan a document placed on the platform, the method ~~including~~ comprising:

providing a scattering light source mounted on the scanning head, wherein a length of the scattering light source is smaller than a length of a window on the platform along a direction perpendicular to the scanning direction;

~~projecting a parallel beam from the scattering light source onto the platform to produce a scan line~~;

~~defining a length of the scan line as a maximum width of scanning on the document~~;

providing a plurality of reflecting mirrors sequentially positioned along an optical path beyond the document;

providing a lens positioned along an optical path beyond the ~~set~~ plurality of reflecting mirrors; and

~~providing positioning a photo-sensor along an optical path beyond the lens, wherein the so that a parallel beam from the scattering light source being projected onto the platform will sequentially passes through the reflecting mirrors and the lens to arrive at the photo-sensor after reflection.~~

6. (Currently amended) The ~~design~~ method of claim 5, wherein the scattering light source includes a scattering lamp tube.

7. (Currently amended) The ~~design~~ method of claim 5, wherein the reflecting mirrors ~~has~~ have a length smaller than or equal to the length of the scattering light source.

8. (Currently amended) The ~~design~~ method of claim 5, further comprising:

projecting the parallel beam from the scattering light source onto the platform to produce a scan line;

defining a length of the scan line as a maximum width of scanning on the document; and

wherein a the length of the scan line is an optimal width of the window on the platform.

9. (Currently amended) ~~An outer casing and a platform for a scanner, at least comprising:~~  
an outer casing having an opening section, ~~wherein lower edges of the opening section~~  
~~have and supporting surfaces below the opening section, the opening section having a~~  
circumference defining an area of the opening section; and  
a platform ~~on~~ having a peripheral edge forming an area of the platform, at least a portion  
of the peripheral edge being supported by the supporting surfaces, wherein an the area of the  
platform is at least approximately identical to an the area of the opening section.
10. (Currently amended) A scanning head for a scanner, wherein the scanner has a platform  
for putting a document, and the scanning head is capable of moving forward in a scanning  
direction to scan the document, the scanning head ~~at least~~ comprises:  
a shell body with a long side, wherein a length of the long side is smaller than a length of  
the platform in a direction perpendicular to the scanning direction;  
a scattering light source mounted on the long side of the shell body for producing a  
parallel beam of light, wherein the scattering light source has a length smaller than or equal to  
the length of the long side of the shell body;  
a plurality of reflecting mirrors within the shell body;  
a lens within the shell body; and  
a photo-sensor within the shell body, wherein the parallel beam from the light source  
projecting onto the platform sequentially passes through the reflecting mirrors and the lens to  
arrive at the photo-sensor after reflection.
11. (Original) The scanning head of claim 10, wherein the scattering light source includes a  
scattering lamp tube.
12. (Currently amended) The scanning head of claim 10, wherein the reflecting mirrors ~~has~~  
have a length smaller than or equal to the length of the scattering light source.

13. (Currently amended) A scanner for scanning a document, ~~at least~~ comprising:  
an outer casing with an opening section;  
a platform over the opening section for ~~putting~~ supporting the document;  
a scanning head within the outer casing, wherein the scanning head is capable of moving forward in a scanning direction to scan the document, wherein the scanning head further includes:

a shell body with a long side, wherein a length of the long side is smaller than a length of the platform in a direction perpendicular to the scanning direction;

a scattering light source mounted on the long side of the shell body for producing a ~~parallel~~ beam of light, wherein the scattering light source has a length smaller than or equal to the length of the long side of the shell body;

a plurality of reflecting mirrors within the shell body;

a lens within the shell body; and

a photo-sensor within the shell body, ~~wherein~~ positioned so that when the parallel beam of light from the light source is projected onto the platform, the beam of light sequentially passes through the reflecting mirrors and the lens to arrive at the photo-sensor after reflection;

a linear guide within the outer casing for guiding the scanning head; and

a driving device within the outer casing for driving the scanning head.

14. (Original) The scanner of claim 13, wherein the scattering light source includes a scattering lamp tube.

15. (New) The scanner of claim 9 wherein the platform abuts the outer casing.

16. (New) The scanner of claim 9 further comprising a scanning head movable in a scanning direction to scan a document placed on the platform.

17. (New) The scanner of claim 16 wherein a shell body of the scanning head has a long side, and a length of the long side is smaller than a length of the platform along a direction perpendicular to the scanning direction.

18. (New) A scanning head for a scanner, wherein the scanner has a platform for placing a document, and the scanning head is movable in a scanning direction to scan the document, the scanning head comprising:

a shell body with a long side, wherein a length of the long side is smaller than a length of the platform in a direction perpendicular to the scanning direction; and  
wherein a photo-sensor is installed inside the shell body.

19. (New) The scanning head of claim 18 wherein a lens is installed inside the shell body.

20. (New) The scanning head of claim 18 further comprising a scattering light source mounted on the long side of the shell body for producing a parallel beam of light, wherein the scattering light source has a length smaller than or equal to the length of the long side of the shell body.

21. (New) A scanning system comprising:

means for accommodating a document to be scanned;  
means for imaging the document;  
means for containing the means for imaging;  
means for moving the means for containing in a scan direction, wherein the means for containing is smaller than the means for accommodating in a direction perpendicular to the scan direction.

22. (New) The scanning system of claim 21, wherein the means for accommodating comprises an outer casing and a platform.

23. (New) The scanning system of claim 22, wherein a width of a window on the platform accommodates a width of an A4 size document.

24. (New) The scanning system of claim 21, wherein the means for imaging comprises a plurality of reflecting mirrors, a lens, and a photo-sensor.

25. (New) The scanning system of claim 21, wherein the means for containing comprises a shell body with a long side, wherein a length of the long side is smaller than the means for accommodating in a direction perpendicular to the scanning direction.

26. (New) The scanning system of claim 21, wherein the means for moving comprises a linear guide and a driving device.